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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,614	03/30/2007	Anthony C. Gilby	W-372-02	7875
43840 7590 09/03/2009 Waters Technologies Corporation C/O WATERS CORPORATION 34 MAPLE STREET - LG MILFORD, MA 01757				
EXAMINER				
SOHN, SEUNG C				
ART UNIT		PAPER NUMBER		
2878				
MAIL DATE		DELIVERY MODE		
09/03/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/598,614

Applicant(s)

GILBY, ANTHONY C.

Examiner

SEUNG C. SOHN

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CI/CC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date ____.
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the at least one light source, the at least one sample cell, and the means for reading the pixels in claim 1** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. ***Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yadid-Pecht et al. (Patent no. US 6,175,383 B1).***

Regarding claim 1, Yadid-Pecht et al. discloses a self-scanned photodiode array wherein charge from individual pixels is switched from each pixel sequentially onto at least one output video line after a predetermined exposure time (to) comprising: at least one light source; at least one sample cell having means for receiving light from said at least one light source; a photo-diode array having pixels for collecting light transmitted through said at least one sample cell; means for reading said pixels; means for skipping the reading of selected pixels for one or more additional exposure times allowing said selected pixels to be exposed for specified integer multiples (M) of said predetermined exposure time, thereby allowing said selected pixels receiving less light to accumulate additional charge before being read and thereby reducing number of read cycles and improving signal-to-noise ratio.

Regarding claim 2, Yadid-Pecht et al. discloses that different pixels are exposed for the same or different integer multiples (M) of said predetermined exposure time.

Regarding claim 3, Yadid-Pecht et al. discloses that said predetermined exposure time does not exceed saturation of the pixel or pixels accumulating charge at a highest rate within a predetermined range of pixels.

Regarding claim 4, Yadid-Pecht et al. discloses that specified integer multiples M are chosen such that each pixel signal, within a predetermined range of pixels approaches but does not exceed saturation.

Regarding claim 5, Yadid-Pecht et al. discloses that said exposure time of individual pixels, Mt_0 , does not cause saturation of pixels from which charge is measured.

Regarding claim 6, Yadid-Pecht et al. discloses that said exposure time of each pixel, is an integer multiple M of said predetermined exposure time, which does not include the integer 1.

Regarding claim 7, Yadid-Pecht et al. discloses that said sample time is defined as a time taken for one or more complete measurements of the full or selected portion of the photodiode array, said individual pixel exposure times Mt_0 being submultiples of said sample time.

Regarding claim 8, Yadid-Pecht et al. discloses that said predetermined exposure time to is established when said photo-diode array receives said light according to a reference condition.

Regarding claim 9, Yadid-Pecht et al. discloses that the predetermined range of pixels includes the full array.

Regarding claim 10, Yadid-Pecht et al. discloses that the predetermined range of pixels includes the full array.

Regarding claim 11, Yadid-Pecht et al. discloses that the value recorded when a pixel read is skipped is set to zero to avoid the addition of unnecessary read noise.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. ***Claim 12 is rejected under 35 U.S.C. 102(e) as being anticipated by Deng et al. (Patent No. US 6,765,619 B1).***

Regarding claim 12, Deng et al. discloses a method of improving signal to noise ratio of measurements made using a self-scanned photodiode array to detect light in the ultraviolet, visible and infrared portions of a light spectrum comprising the steps of: exposing pixels of said photodiode array to light received from a reference condition and measuring the spectrum of a short exposure time causing no saturation of said pixels; measuring a dark spectrum of said pixels with shutter closed using said short exposure time; calculating a dark corrected reference signal from each pixel; calculating an exposure time for each pixel such that its accumulated charge would reach a predetermined level, close to but below saturation; establishing a predetermined

exposure time to, short enough that no pixel in a specified range of interest will saturate; assigning integers M such that individual pixels are exposed for integer multiples of the predetermined exposure time Mt_0 , such that after time Mt_0 said individual pixels have accumulated charge close to but not exceeding saturation; re-measuring dark spectrum with shutter closed using exposure pattern determined by integers; re-measuring reference spectrum using exposure pattern determined by integers, thereby creating a dark-corrected reference spectrum; Measuring sample spectra using the same exposure pattern determined by integers and creating dark corrected sample spectra; combining reference and sample spectra to determine absorption characteristics of sample and thereby identify and quantitate same with improved signal-to-noise ratio.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEUNG C. SOHN whose telephone number is (571)272-4123. The examiner can normally be reached on Mon-Thur, 7:30 AM -6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGIA Y. EPPS can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SEUNG C SOHN/

Primary Examiner, Art Unit 2878